

### **Remarks**

Claims 1-31 are pending. With this Response, claim 1 is amended, claims 2 and 3 are canceled, and new claims 32 and 33 are added. Upon entry of the current amendments, claims 1 and 4-33 are pending.

The claim amendments are fully supported by the application as originally filed.

Support for amended claim 1 can be found in the specification at, for example, page 5, lines 7-9.

Support for new claim 32 can be found in the specification at, for example, page 3, line 32 to page 4, line 1.

Support for new claim 33 can be found in the specification at, for example, page 3, lines 30-32, and Examples 1 and 2.

It is believed that no fee is required for adding new claims 32 and 33 because canceled claims 2 and 3 were previously paid for. However, if any fee is required for adding new claims 32 and 33, please charge the appropriate fee to the Kagan Binder Deposit Account No. 50-1775 and notify us of the same.

Applicants respectfully request reconsideration and allowance of the application in view of the present amendments and following remarks.

### **Claim Rejections under 35 USC § 112**

Claim 1 stands rejected under 35 U.S.C. §112, second paragraph, as being indefinite. According to the Office Action, “the term ‘bread-like’ is indefinite because the scope of the such language cannot be determined. What will be considered as ‘bread-like’?”

Applicants respectfully traverse this rejection.

Claim 1 recites a “method for making an uncooked extruded bread-like dough product … wherein, … the dough product has a BSV of greater than about 3.0 cc/g.” (emphasis added).

Applicants submit that the term “bread-like dough product,” is well-known and readily understood by a skilled worker in the dough making arts, especially in the context of an extruded dough product that has a BSV of greater than about 3.0 cc/g.

Applicants' specification repeatedly discusses the characteristics of a bread-like dough product. For example, as noted at page 1, lines 15-18 of the specification, the bread portion of a bread-like product:

should have appropriate volume, crumb texture, and mouthfeel. The texture of the product should not be too chewy or tough, and the crust should preferably be brown and have the proper texture.

Page 2, lines 2 and 3 of the specification also notes the open-celled or high specific volume characteristics of bread-like products.

The specification further contrasts extruded bread-like doughs of the present invention from conventionally extruded doughs by describing that doughs having small bubbles or gas cells dispersed evenly throughout the dough are highly desired. (See the specification at page 4, lines 9 and 10). In contrast, conventionally extruded doughs are noted to typically result in "degassed" doughs, which means that they have large, unevenly dispersed bubbles (e.g., in a crisp snack dough) or a lack of bubbles (e.g., in a pasta dough) (See the specification at page 4, lines 3-14). The specification also notes that "degassed" doughs made from white flour have a yellowish crumb color rather than a more desired white crumb of certain embodiments of the present invention. (See the specification at page 4, lines 14-16). The specification goes on to describe in detail the relationship between crumb color and gas cell distribution, how to measure crumb color, and that doughs of the present invention have a "crumb color that is characteristic of bread doughs made in non-extrusion processes." (See the specification at page 8, line 30 to page 9, line 12). Visual inspection of certain doughs according to the present invention for bread-like characteristics is described in the specification at page 9, lines 15-21.

Thus, in the context of an extruded dough, as recited in claim 1, the term "bread-like" is understood by the skilled artisan to have the crumb color, gas cell distribution, gas cell size, and texture of a conventional bread in contrast to pasta or a crisp snack. The baked specific volume feature of claim 1, "BSV of greater than about 3.0 cc/g," distinguishes the dough product of claim 1 from a pasta-like dough product, whereas the "bread-like" feature of claim 1 distinguishes the dough product of claim 1 from a crisp snack dough product.

Applicants respectfully submit that claim 1 is definite and fully complies with the requirements of 35 U.S.C. §112, second paragraph.

Accordingly, Applicants request that the rejection of claim 1 under 35 U.S.C. §112, second paragraph be withdrawn.

### **Claim Rejections under 35 USC 103(a)**

Claims 1-31 stand rejected under 35 USC 103(a) as being unpatentable over Geng et al. (U.S. Pat. No. 6,180,151) in view of Saari et al. (5,049,398) and the textbook “Element of Food Technology.”

This rejection is respectfully traversed for reasons discussed below.

Independent claim 1, from which all remaining pending claims depend, has been amended to include the subject matter of claim 3, i.e., that the pre-gelatinized starch in the dough composition comprises “at least about 90 percent of amylopectin.”

The primary reference, Geng et al., does not teach extruding a dough composition having pre-gelatinized starch. To the contrary, Geng et al. teach that the starch in their dough should not be gelatinized as follows:

The extrusion is performed at temperatures that do not cook or gelatinize the starch within the dough... The extrusion is a ‘cold’ extrusion, performed at temperatures less than about 145°F, such that the starch does not begin to gelatinize. (See Geng et al. at col. 3, lines 2-4 and 40-43).

In addition, the Geng et al. reference does not motivate or suggest extruding a dough composition that includes pre-gelatinized starch. By expressly warning that the starch in their dough should not be gelatinized, Geng et al. teach away from including pre-gelatinized starch in their dough that is to be extruded.

Also, as acknowledged by the Office Action, Geng et al. fail to disclose the amount of amylopectin in their starch.

The Office Action cites the secondary reference, Saari et al., as disclosing a dough composition having pre-gelatinized starch for the purpose of curing the deficiency of Geng et al. with respect to the pre-gelatinized feature of claim 1.

However, the Office Action fails to explain how the prior art would have suggested or motivated a skilled worker to ignore the warning by Geng et al. to not

gelatinize starch in a dough that is to be extruded, especially when such a negative teaching in the Geng et al. reference is the antithesis of a motivation or suggestion to include pre-gelatinized starch in a dough to be extruded.

The Office Action cites the other secondary reference, the textbook “Element of Food Technology,” as curing the deficiencies of Geng et al. and Saari et al. with respect to the amylopectin content feature because the textbook discloses the amylopectin content of most starches as follows:

[m]ost starches found in the world contain 22-26% amylase and 74-78% amylopectin.

The Office Action then concludes that extruding a dough composition that includes pre-gelatinized starch having such a high level of amylopectin as at least about 90 percent amylopectin (i.e., a feature of currently amended claim 1 and canceled claim 3) would have been obvious as follows:

As to the starch having the amylopectin in claims 2-3, Saari et al. only require that the starch be pregelatinized; there is no restriction on the amount of amylopectin. Thus, it would have been obvious to one skilled in the art to select any known starch as long as it is pregelatinized. Starch having high content of amylopectin is known in the art. (Emphasis added).

Again, however, the Office Action fails to provide an explanation of how the prior art renders Applicants’ claims obvious. In particular, the Office Action fails to explain how the teachings of Geng et al., Saari et al., and the cited textbook, alone or in combination, would have motivated or suggested a skilled worker to extrude a dough composition that includes pre-gelatinized starch having at least about 90 percent of amylopectin. The Office Action merely cites the textbook as disclosing that most starches in the world have an amylopectin content of up to only 78% and notes that because Saari et al. does not restrict amylopectin content it would be obvious to extrude a dough that includes a pre-gelatinized starch having such a high level of amylopectin (i.e., at least about 90 %). Moreover, it is known in the dough-making art that increasing levels of amylopectin in starch tends to cause a dough to become more sticky and that sticky dough is generally undesirable. In other words, since there is generally a bias in

the dough-making art to stay away from a particular dough characteristic (i.e., sticky dough) and it is known that higher levels of amylopectin cause a dough to be more sticky, there would have been no motivation or suggestion for a skilled worker to use a starch having at least about 90 percent of amylopectin as recited in Applicants' claimed method (e.g., claim 1). Further, the skilled artisan could have been expected in particular to wish to avoid the inclusion of sticky materials in a bread-like dough extrusion process in view of potential complications that could have arisen with such material.

It has surprisingly been found that the use of pre-gelatinized starch having such a high level of amylopectin in an extruded dough composition as presently claimed provides a product that exhibits superior BSV properties. Without considering Applicants' claim 1, one could not have expected that such a selection of process and ingredient features would result in a product having the desired texture and overall organoleptic properties as achieved by the present invention.

In view of the foregoing, Applicants respectfully request that the rejection of claims 1-31 under 35 U.S.C. § 103(a) as being unpatentable over Geng et al. in view of Saari et al. and the textbook "Element of Food Technology" be withdrawn.

The Examiner is invited to contact the undersigned, at the Examiner's convenience, should the Examiner have any questions regarding this communication or the present patent application.

Respectfully Submitted,

GENG ET AL

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